CLAIMS

What Is Claimed Is:

1. A wireless data communication network switching device being provided in a mobile computer on which a client is deployed and which is capable of connecting to a plurality of wireless data communication networks, operating as a intermediary mechanism for the client, and controlling switching of the wireless data communication networks in cooperation with a server side switching device operating as a intermediary mechanism for a server with which the client communicates, the device comprising:

means for releasing a session being established in a response to a switching request for the wireless data communication networks in cooperation with the server side switching device;

means for connecting to a wireless data communication network to which the communication is to be switched and acquiring a new communication address assigned in response to the connection, after the release is complete;

means for notifying the server side switching device of the communication address; and

means for resuming the released session in cooperation with the server side switching device following the notification.

2. A wireless data communication network switching device according to claim 1, wherein the means for releasing transmits a marker indicative of the last data when the session is suspended to inform the server side switching device of the data that should have been received when the session is suspended.

3(5). A wireless data communication network switching device according to claim 1, further comprising:

means for issuing the switching request by estimating a communication traffic between the client and the server.

4(6). A wireless data communication network switching device according to claim 3, wherein the means for issuing estimates the communication traffic by measuring size of a content to be communicated between the client and the server.

5(7). A wireless data communication network switching device according to claim 4, wherein the means for issuing issues another switching request to switch back to the previous wireless data communication network, after issuing the switching request depending on the communication traffic estimated from the content size and when the content is complete.

6(8). A wireless data communication network switching device according to claim 3, wherein the means for issuing estimates a communication traffic from an application type.

7(9). A wireless data communication network switching device according to claim 6, wherein the means for issuing issues another switching request to switch back to the previous wireless data communication network, after issuing the switching request depending on the communication traffic estimated from the application type and when the application is terminated.

8(10). A wireless data communication network switching device according to claim 1, further comprising:

means for transforming discrete communication traffics into a continuous communication traffic by holding data to be transmitted for a period.

9(11). A wireless data communication network switching device according to claim 1, further comprising:

means for detecting whether a new wireless data communication network is made available; and

means for determining whether the new wireless data communication network is advantageous in terms of service charge over a currently-used wireless data communication network and issuing a switching request to switch to the new wireless data communication network when it is determined advantageous.

10(3). A wireless data communication network switching device operating as a intermediary mechanism for a server and controlling switching of wireless data communication networks in cooperation with a client side switching device operating as a intermediary mechanism for a client with which the server communicates, the device comprising:

means for transferring a service request to the server by identifying a server pointed to by a port number specified in the service request issued by the client;

means for releasing a session being established in a response to a switching request for the wireless data communication networks in cooperation with the client side switching device;

means for acquiring a communication address for the client side switching device assigned by a wireless data communication network switched by the client side switching device in response to the switching request; and

means for resuming the released session in cooperation with the client side switching device following the acquisition.

11(4). A wireless data communication network switching device according to claim 3, wherein the means for releasing detects a marker transmitted by the client side switching device to detect the completion of the reception of the data that should have been received when the session is suspended.

12(5'). A wireless data communication network switching device according to claim 10, further comprising:

means for issuing the switching request by estimating a communication traffic between the client and the server.

13(6'). A wireless data communication network switching device according to claim 12, wherein the issuance means estimates the communication traffic by measuring size of a content to be communicated between the client and the server.

14(7'). A wireless data communication network switching device according to claim 13, wherein the means for issuing issues another switching request to switch back to the previous wireless data communication network, after issuing the switching request depending on the communication traffic estimated from the content size and when the content is complete.

15(8'). A wireless data communication network switching device according to claim 12, wherein the means for issuing estimates a communication traffic from an application type.

16(9'). A wireless data communication network switching device according to claim 15, wherein the means for issuing issues another switching request to switch back to the previous wireless data communication network, after issuing the switching request depending on the communication traffic estimated from the application type and when the application is terminated.

17(10'). A wireless data communication network switching device according to claim 10, further comprising:

means for transforming discrete communication traffics into a continuous communication traffic by holding data to be transmitted for a period.

18(12). A wireless data communication network switching method being executed on a device which is provided in a mobile computer deployed a client thereon and capable of connecting to a plurality of wireless data communication networks, which operates as a intermediary mechanism for the client, and which controls switching of the wireless data communication networks in cooperation with a server side switching device operating as a intermediary mechanism for a server with which the client communicates, the method comprising:

releasing a session being established in a response to a switching request for the wireless data communication networks in cooperation with the server side switching device;

connecting to a wireless data communication network to which the communication is to be switched and acquiring a new communication address assigned in response to the connection, after the release is complete;

notifying the server side switching device of the communication address; and

resuming the released session in cooperation with the server side switching device following the notification.

19(13). A wireless data communication network switching method being executed on a device which operates as a intermediary mechanism for a server and which controls switching of wireless data communication networks in cooperation with a client side switching device operating as a intermediary mechanism for a client with which the server communicates, the method comprising:

transferring a service request to the server by identifying a server pointed to by a port number specified in the service request issued by the client;

releasing a session being established in a response to a switching request for the wireless data communication networks in cooperation with the client side switching device;

acquiring a communication address for the client side switching device assigned by a wireless data communication network switched by the client side switching device in response to the switching request; and

resuming the released session in cooperation with the client side switching device following the acquisition.

20(14). A wireless data communication network switching program being executed on a device which is provided in a mobile computer deployed a client thereon and capable of connecting to a plurality of wireless data communication networks, which operates as a intermediary mechanism for the client, and which controls switching of the wireless data

communication networks in cooperation with a server side switching device operating as a intermediary mechanism for a server with which the client communicates,

wherein the wireless data communication network switching program causes a computer to perform:

releasing a session being established in a response to a switching request for the wireless data communication networks in cooperation with the server side switching device;

connecting to a wireless data communication network to which the communication is to be switched, and acquiring a new communication address assigned in response to the connection, after the release is complete;

notifying the server side switching device of the communication address; and

resuming the released session in cooperation with the server side switching device following the notification.

21(15). A wireless data communication network switching program being executed on a device which operates as a intermediary mechanism for a server and which controls switching of wireless data communication networks in cooperation with a client side switching device operating as a intermediary mechanism for a client with which the server communicates,

wherein the wireless data communication network switching program causes a computer to perform:

transferring a service request to the server by identifying a server pointed to by a port number specified in the service request issued by the client;

releasing a session being established in a response to a switching request for the wireless data communication

networks in cooperation with the client side switching device;

acquiring a communication address for the client side switching device assigned by a wireless data communication network switched by the client side switching device in response to the switching request; and

resuming the released session in cooperation with the client side switching device following the acquisition.

22(16). A program recording medium recording a wireless data communication network switching program being executed on a device which is provided in a mobile computer deployed a client thereon and capable of connecting to a plurality of wireless data communication networks, which operates as a intermediary mechanism for the client, and which controls switching of the wireless data communication networks in cooperation with a server side switching device operating as a intermediary mechanism for a server with which the client communicates,

wherein the wireless data communication network switching program causes a computer to perform:

releasing a session being established in a response to a switching request for the wireless data communication networks in cooperation with the server side switching device;

connecting to a wireless data communication network to which the communication is to be switched, and acquiring a new communication address assigned in response to the connection, after the release is complete;

notifying the server side switching device of the communication address; and

resuming the released session in cooperation with the server side switching device following the notification.

23(17). A program recording medium recording a wireless data communication network switching program being executed on a device which operates as a intermediary mechanism for a server and which controls switching of wireless data communication networks in cooperation with a client side switching device operating as a intermediary mechanism for a client with which the server communicates,

wherein the wireless data communication network switching program causes a computer to perform:

transferring a service request to the server by identifying the server pointed to by a port number specified in a service request issued by the client;

releasing a session being established in a response to a switching request for the wireless data communication networks in cooperation with the client side switching device;

acquiring a communication address for the client side switching device assigned by a wireless data communication network switched by the client side switching device in response to the switching request; and

resuming the released session in cooperation with the client side switching device following the acquisition.